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FACTORS INFLUENCING MORTALITY IN NECK OF FEMUR FRACTURES

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Background

Neck of femur fracture is of increasing significance given the aging of the population. It is known that there is a significant mortality inherent with these fractures. The recent literature suggests that several factors increase the mortality associated with surgical management of neck of femur fracture. Delay to theatre, medical comorbities (including congestive cardiac failure, chronic renal failure and chronic obstructive airways disease), size of treating hospital and age have all been implicated in increasing mortality.

Aims

Identification of risk factors which are significantly (independently or in combination) related to 30 day post-operative mortality.

Methodology

Retrospective analysis of 268 consecutive patients with neck of femur fractures managed operatively over a one year period in 2 Queensland Teaching Hospitals. Variables examined included age, gender, fracture pattern, type of operative management, demographics, haemoglobin on admission, premorbid mobility, delay to theatre, CCF, COPD, CRF, dementia and institution. A single outcome measure of 30 day mortality was used.

Results

From the data collected it was shown that age (p=0.018) is the only significant variable impacting on 30 day mortality.

There was no significant difference in 30 day mortality observed for institution (p=0.1), delay to surgery (p=0.5), preoperative Hb (p=0.77), fracture type (p=0.09), operation performed (p=0.72), demographics (p=0.29), preoperative mobility (p=0.19), dementia (p=0.53) or gender (p=0.96).

CCF, CRF and COPD were not found to be predictive of mortality, when considering these risk factors each in isolation or in patients with a combination of medical conditions (p=0.49).

A significant difference in delay to surgery was observed between the hospitals examined (p=0.001; Mann-Whitney U), however this did not correlate with an increased risk of death within 30 days of procedure.

No patient was lost to follow-up.

Discussion

Of the variables examined, age was the only factor shown to impact on 30 day postoperative mortality. Importantly timing of operative management was not demonstrated to be associated with an increased risk of death, implying that delay to theatre for appropriate preoperative management should not be avoided on the basis of mortality risk.